CRISPR patent wars highlight problem of granting broad intellectual property rights for tech that offers public benefits

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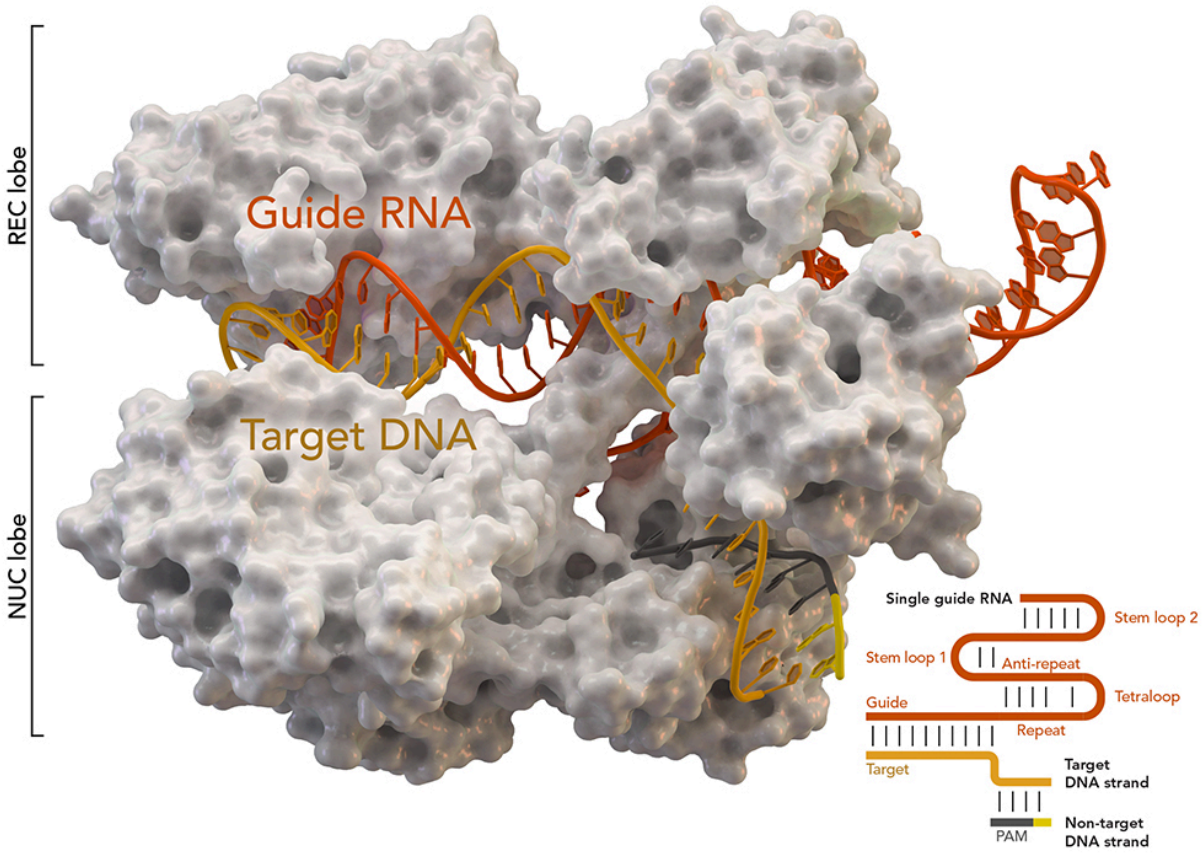

CRISPR-associated protein Cas9 (white) from Staphylococcus aureus based on Protein Database ID 5AXW. Credit: Thomas Splettstoesser (Wikipedia, CC BY-SA 4.0)

(Phys.org)—Duke University Law professor Arti Rai and bio-technology professor Robert Cook-Deegan with Arizona State University have stepped into the gene editing patent war with an Intellectual Property Policy Forum paper they have had published in the journal *Science*. They suggest that courts should take more into account than who invented what first in some property rights disputes. With technology, such as CRISPR-Cas9, for example, they argue that some thought (and rights) should to be given to the public as beneficiaries of future research efforts related to that technology.

CRISPR-Cas9 is a cutting-edge gene editing technique. It has been in the news as many researchers are using it to conduct gene editing research. But it has also been in the news because two parties are claiming they invented it. They are the University of California and the Broad Institute. It is believed that patent rights will generate a significant amount of revenue for the ultimate winner of the war due to licensing rights.

As Rai and Cook-Degan note, the patent war (or another one like it) has been in the making for several decades due to passage of the Bayh-Dole Act back in 1980, which allowed entities to obtain patents on work done for federally funded research efforts. In the CRISPR war, both parties received funding from NIH and both applied for patents, but the timing is murky. But as the authors also note, something that should not be lost or overlooked in the legal wrangling is the rights of the public. If one party in the war wins, they are set to assume control over who can use the gene editing technique and in which sorts of ways. In granting such full ownership to a single entity, the courts could be hindering genetic research in possibly detrimental ways. What if a team of researchers is making progress on eliminating a genetic disease, for example, but is slowed because it cannot gain licensing to proceed? Innocent people might thus suffer due to a court decision. The authors suggest that the solution is for the courts to move away from granting broad patents in such cases and instead grant narrow patents that allow the holder some

rights, but not all, creating a more open system of use for cutting-edge technology.

More information: Racing for academic glory and patents: Lessons from CRISPR, *Science* 17 Nov 2017: Vol. 358, Issue 6365, pp. 874-876, DOI: 10.1126/science.aao2468 , science.sciencemag.org/content/358/6365/874

Summary

The much-publicized dispute over patent rights to CRISPR-Cas9 gene-editing technology highlights tensions that have been percolating for almost four decades, since the U.S. Bayh-Dole Act of 1980 invoked patents as a mechanism for promoting commercialization of federally funded research. With the encouragement provided by Bayh-Dole, academic scientists and their research institutions now race in dual competitive domains: the quest for glory in academic research and in the patent sphere. Yet, a robust economic literature argues that races are often socially wasteful; the racing parties expend duplicative resources, in terms of both the research itself and the legal fees spent attempting to acquire patents, all in the pursuit of what may be a modest acceleration of invention. For CRISPR, and future races involving broadly useful technologies for which it may set a precedent, the relationship between these competitive domains needs to be parsed carefully. On the basis of legal maneuvers thus far, it appears that the litigants will try for broad rights; public benefit will depend on courts reining them in and, when broad patents slip through, on updating Bayh-Dole's pro-commercialization safeguards with underused features of the Act.

https://phys.org/news/2017-11-crispr-patent-wars-highlight-problem.html